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REMARKS

Claims 18-21 have been cancelled to expedite prosecution.

Claims 1, 8, 10 and 12 have been amended. More specifically, claims 1, 8 and 12 have been amended to more appropriately recite that the composition and method of the present invention relate to the use of cyclodextrin compositions to prevent formation of acrylamide during heating. See the specification at paragraphs 0019 and 0035. It will be readily appreciated that by preventing formation of at least some acrylamide that would have otherwise been formed if the cyclodextrin composition had not been present, one produces a food product or food intermediate that has reduced levels of acrylamide as compared to prior art food products. Other minor changes have been made for clarity. It is respectfully submitted that this amendment simply clarifies the present invention as fully described in the specification, and does not add new matter.

Claim 10 has been amended to conform the language of this claim to the independent claim from it depends.

The withdrawal of rejections under 35 USC 112 is gratefully acknowledged.

Claims 1,2,4,8,10-14, 16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Smail et al, US Patent Application Publication 2003/0077361 A1.

The present invention relates to food product treatment compositions for reducing acrylamide levels in food products, methods for reducing acrylamides in products, and food products and food intermediates having a coating for reducing acrylamides in products.

As noted in the specification at paragraphs 0019 and 0035, it is believed that the present invention operates by sequestering the starting materials that form acrylamides during heating in the hydrophobic binding pocket of cyclodextrin. Thus, the surprising ability to prevent acrylamide formation in foods through topical application is directly related to the unique chemical structure of cyclodextrins.

Smail discloses an unbaked dough product that comprises a dough mixture with part of the outer surface coated with a pre-glaze composition of a complex sugar. The sugars used in these compositions are mono- or di- saccharides, or

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polysaccharides. In the long list of possible sugars, cyclodextrins are listed at paragraph 0011. The only preglaze composition exemplified in the Smail patent comprises 90% polydextrose, less than 2% sorbitol and less than 4% glucose. See paragraph 0018. For purposes of the Smail teaching, there is nothing special about a composition containing cyclodextrin. Indeed, complex sugars that are not cyclic rings of sugars are preferred in the Smail disclosure as compared to cyclodextrins. Thus, the outstanding rejection is appropriately framed as an obviousness rejection, and secondary considerations must be considered when determining patentability of the present claims.

As noted above, the operation of the present invention is dependent on the unique chemical structure of cyclodextrins and their ability to sequester starting materials, thereby preventing formation of acrylamide under heating conditions. It thus can clearly be seen that this property is not inherent to the Smail compositions, and particularly could not occur in the only composition actually exemplified in this reference because of the different chemical structure of the complex sugar.

The advantageous properties exhibited by the compositions of the present invention are not merely newly identified properties that would flow naturally from the prior art. Rather, the compositions as claimed identify a set of materials that exhibit properties that cannot be exhibited by most of the Smail compositions, including the preferred prior art compositions. Thus, the presently claimed compositions provide benefits that cannot be obtained by the preferred Smail compositions.

Similarly, the present method claims as amended relate to a method of prevention of formation of acrylamide in heat treated food products. The method claim as amended specifically recites that the cyclodextrin and carrier are topically applied to a food product or food intermediate in an amount effective to prevent formation of acrylamide during heating. Thus, the claim preamble, which recites prevention of formation of acrylamide in heat treated food products, recites limitations of the claim and are to be construed as if in the balance of the claim. See MPEP 2111.02. The Smail reference does not teach or suggest carrying out a method of prevention of formation of acrylamide as claimed. The present method claims therefore are clearly patentable in view of the prior art of record.

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Claims 3 and 18-21 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Smail as applied to claims 1,2,4,8,10-14, 16 above and further in view of Smith, US Patent Number 5,128,161.

Claims 18-21 have been cancelled to simplify prosecution. Claim 3 is drawn to a composition of claim 1 supplied in a form of a spray.

As noted above, Smail describes coating compositions comprising sugar to provide a glaze to baked dough compositions. Smith is cited for the purpose of disclosing spray glaze provided in aerosol containers. The compositions of the spray glazes of the Smith disclosure are egg wash substitutes prepared by blending maltodextrin with a plasticizer, a secondary film former, water and preferably a microbial inhibitor. The Smith reference is silent with respect to the use of a cyclodextrin as an ingredient of a coating composition. It is respectfully submitted that the combination of these references does not render obvious the specific composition of claim 1, even when provided in the form of a spray.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smail as applied to claims 1,2,4,8,10-14, 16 above and further in view of Baking 911 online publication.

The present claims as rejected are drawn to food products or methods wherein a coating containing cyclodextrin for reducing acrylamide levels is applied to partially baked food products. Baking 911 is cited to teach the concept of partially baking food products. This disclosure is limited to partially pre-baking a single crust pie or tart without the filling, brushing with a glaze (wherein the glaze composition is not specified), and reheating to set.

It is respectfully submitted that the Baking 911 reference fails to bridge the gap, noted above, between the Smail disclosure and the present claims. Baking 911 provides no motivation, alone or in combination with Smail, to formulate a composition comprising cyclodextrin for topical coating of food products, and one could not have predicted the surprising benefit of reduction of acrylamide by use of a coating composition comprising cyclodextrin as presently claimed.

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Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smail as applied to claims 1,2,4,8,10-14, 16 above and further in view of Nutra USA publication.

The Nutra USA publication is cited for its disclosure of alpha cyclodextrin as a non-digestible, fully fermentable dietary fiber. This reference is merely an announcement by Wacker Specialties of the production of this material on a commercial scale, and does not discuss relative preferred use of this material as compared to any complex sugar in any use, much less the use as described in Smail. Neither Smail nor Nutra USA teach or suggest use of a cyclodextrin composition for reduction of acrylamide by topical application to food products that are to be heated. Thus, it is respectfully submitted that the present claims are patentable in view of the prior art of record.

CONCLUSION

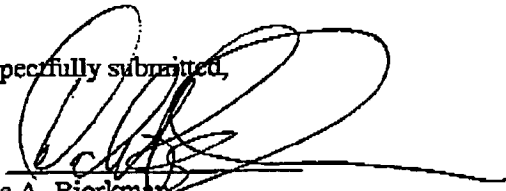
In view of the amendments and remarks provided herein, Applicants respectfully submit that all of the pending claims are in condition for allowance, and respectfully request notification thereof.

In the event that a phone conference between the Examiner and the Applicants' undersigned attorney would help resolve any remaining issues in the application, the Examiner is invited to contact the attorney at (651) 275-9811.

In particular, if it is determined that any of the above claims are deemed to be allowable, and that the application could be placed in condition for allowance by a simple Examiner's amendment, the Examiner is invited to call the undersigned as indicated.

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Respectfully submitted,

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